

IN THE CLAIMS

1. **(currently amended)** A method of transmitting data packets in an uplink from a plurality of source user equipments to a base station, the data packets being for onward transmission to a plurality of destination user equipments, the method comprising:

determining a measure of a quality of service from the base station to ~~a~~ the plurality of destination user equipments; and

scheduling uplink transmissions from the source user equipments to the base station in dependence on the measure of a quality of service from the base station to the plurality of destination user equipments,

wherein the scheduling is with greater priority for one of the plurality of destination user equipments whose downlink quality of service is relatively high than another of the plurality of destination user equipments whose downlink quality of service is relatively low.

2. (previously presented) The method according to claim 1, wherein the measure of a quality of service is determined at the base station.

3. (previously presented) The method according to claim 2, wherein the base station transmits an indication of the quality of service to a user equipment.

4. (previously presented) The method according to claim 2, wherein the base station transmits to a user equipment an indication of a transmission format to be used by the user equipment.

5. (previously presented) The method according to claim 1, wherein the base station determines a measure of a quality of service for each of the plurality of destination user equipments.

6. (previously presented) The method according to claim 5, wherein the base station determines a credit value for each destination user equipment, the credit value being based on the measures of the quality of service, and the base station transmits each credit value to the corresponding source user equipment.

7. (previously presented) The method according to claim 6, wherein the credit value for each destination user equipment is obtained by comparing the measure of the quality of service for that destination user equipment with measures of the quality of service for other destination user equipments.

8. (previously presented) The method according to claim 1, wherein a plurality of different measures of a quality of service are determined for each of the plurality of destination user equipments.

9. (previously presented) The method according to claim 1, wherein at least one of the following measures of the quality of packet delivery from the base station to a destination user equipment is determined:

- (a) throughput ratio
- (b) ratio of satisfied packets
- (c) base station buffer occupancy.

10. (previously presented) The method according to claim 8, wherein, for each destination user equipment, the base station compares each of the measures of the quality of service for that destination user equipment with the corresponding measures of the quality of service for other destination user equipments, to give a plurality of relative measures.

11. (previously presented) The method according to claim 10, wherein the base station obtains at least one of the following relative measures:

- (a) distance from average throughput ratio
- (b) distance from minimum throughput ratio
- (c) distance from minimum quality of service
- (d) distance from minimum buffer length.

12. (previously presented) The method according to claim 10, wherein the base station combines the plurality of relative measures for each destination user equipment to give a single credit value for that destination user equipment.

13. (previously presented) The method according to claim 1, wherein a source user equipment receives a credit value based on the measure of the quality of service, and determines a time and/or rate of packet transmission based on the credit value.

14. (previously presented) The method according to claim 13, wherein the source user equipment determines the time and/or rate of packet transmission based additionally on a measurement of radio channel conditions.

15. (previously presented) The method according to claim 13, wherein the source user equipment determines the time and/or rate of packet transmission based additionally on the type of service.

16. (previously presented) The method according to claim 1, wherein uplink transmissions are scheduled using rate scheduling.

17. (previously presented) The method according to claim 1, wherein uplink transmissions are scheduled using hybrid rate-time scheduling.

18. (previously presented) The method according to claim 1, further comprising switching from scheduling uplink transmissions using one of rate scheduling and hybrid rate-time scheduling to scheduling uplink transmissions using the other of rate scheduling and hybrid rate-time scheduling.

19. (previously presented) The method according to claim 1, wherein the rate of uplink transmission is varied by adjusting the modulation and coding scheme level.

20. (previously presented) The method according to claim 1, wherein the rate of uplink transmission is varied by adjusting the intervals at which the uplink transmissions take place.

21. (previously presented) The method according to claim 1, wherein a source user equipment receiving an indication of a good quality of service transmits data packets to the base station at a lower rate than would otherwise be the case.

22. (previously presented) The method according to claim 1, wherein a source user equipment receiving an indication of a poor quality of service transmits data packets to the base station at a higher rate than would otherwise be the case.

23. (previously presented) The method according to claim 1, wherein a source user equipment receives credit values based on measures of the quality of service, and stores a history of the credit values.

24. (previously presented) The method according to claim 23, wherein a user equipment with a worsening history of credit values transmits data packets to the base station at a higher rate than would otherwise be the case.

25. (previously presented) The method according to claim 23, wherein a user equipment with an improving history of credit values transmits data packets to the base station at a lower rate than would otherwise be the case.

26. (previously presented) The method according to claim 1, wherein the base station operates a scheduling mechanism for downlink transmissions.

27. (previously presented) The method according to claim 1, wherein the base station transmits the data packets directly to the plurality of destination user equipments.

28. (previously presented) The method according to claim 1, wherein the base station transmits the data packets to the plurality of destination user equipments via a network.

29. (previously presented) The method according to claim 1, wherein a new credit value is periodically determined and sent to the source user equipment.

30. **(currently amended)** A base station for receiving data packets in an uplink from a plurality of source user equipments for onward transmission to a plurality of destination user equipments, the base station comprising:

a determining unit which determines a measure of a quality of service from the base station to ~~a~~ the plurality of destination user equipments;

a producing unit which produces a credit value based on the measure of the quality of service from the base station to each of the plurality of destination user equipments; and

a transmitting unit which transmits the credit value to a corresponding one of the plurality of source user equipments.

wherein scheduling based on the credit value is performed with greater priority for one of the plurality of destination user equipments whose downlink quality of service is relatively high than another of the plurality of destination user equipments whose downlink quality of service is relatively low.

31. **(currently amended)** A base station for receiving data packets in an uplink from a plurality of source user equipments for onward transmission to a plurality of destination user equipments, the base station comprising:

a determining unit which determines a measure of a quality of service from the base station to ~~a~~ the plurality of destination user equipments;

a determining unit which determines, based on the measure of a quality of service from the base station to the plurality of destination user equipments, a transmission format to

be used by a user equipment in scheduling uplink transmissions from the user equipment to the base station; and

a transmitting unit which transmits to the user equipment an indication of the transmission format to be used by the user equipment,

wherein scheduling to the plurality of destination user equipments is performed with greater priority for one of the plurality of destination user equipments whose downlink quality of service is relatively high than another of the plurality of destination user equipments whose downlink quality of service is relatively low.

32. **(currently amended)** A user equipment for transmitting data packets in an uplink to a base station for onward transmission to a plurality of destination user equipments, the user equipment comprising:

a receiving unit which receives from the base station a credit value, the credit value being an indication of the quality of service from the base station to a destination user equipment; and

a scheduling unit which schedules uplink transmissions from the user equipment to the base station in dependence on the credit value,

wherein the scheduling is with greater priority for one of the plurality of destination user equipments whose downlink quality of service is relatively high than another of the plurality of destination user equipments whose downlink quality of service is relatively low.

33. (CANCELLED)

34. (previously presented) A communications system comprising:

a base station for receiving data packets in an uplink from a plurality of source user equipments for onward transmission to a plurality of destination user equipments, the base station comprising:

- a determining unit which determines a measure of a quality of service from the base station to a destination user equipment;
- a producing unit which produces a credit value based on the measure of the quality of service; and
- a transmitting unit which transmits the credit value to a source user equipment; and

a plurality of user equipments, each said user equipment being adapted to transmit data packets in an uplink to a base station for onward transmission to a plurality of destination user equipments, and each said user equipment comprising:

- a receiving unit which receives from the base station said credit value, the credit value being an indication of the quality of service from the base station to a destination user equipment; and
- a scheduling unit which schedules uplink transmissions from the user equipment to the base station in dependence on the credit value.

35. (currently amended) A communications system comprising:

a base station for receiving data packets in an uplink from a plurality of source user equipments for onward transmission to a plurality of destination user equipments, the base station comprising:

- ~~a determining unit which determines a measure of a quality of service from the base station to a destination user equipment;~~

~~a producing unit which produces a credit value based on the measure of the quality of service; and~~

~~a transmitting unit which transmits the credit value to a source user equipment; and~~

~~a plurality of user equipments, each said user equipment being adapted to transmit data packets in an uplink from a plurality of source user equipments for onward transmission to a plurality of destination user equipments, and each said base station comprising:~~

~~a determining unit which determines a measure of a quality of service from the base station to a the plurality of destination user equipments;~~

~~a determining unit which determines, based on the measure of a quality of service, a transmission format to be used by a user equipment in scheduling uplink transmissions from the user equipment to the base station; and~~

~~a transmitting unit which transmits to the user equipment an indication of the transmission format to be used by the user equipment~~

a plurality of user equipments, each said user equipment being adapted to transmit data packets in an uplink to a base station for onward transmission to a plurality of destination user equipments, and each said user equipment comprising:

a receiving unit which receives from the base station said indication of the transmission format; and

a scheduling unit which schedules uplink transmissions from the user equipment to the base station,

wherein the scheduling is with greater priority for one of the plurality of destination
user equipments whose downlink quality of service is relatively high than another of the
plurality of destination user equipments whose downlink quality of service is relatively low.